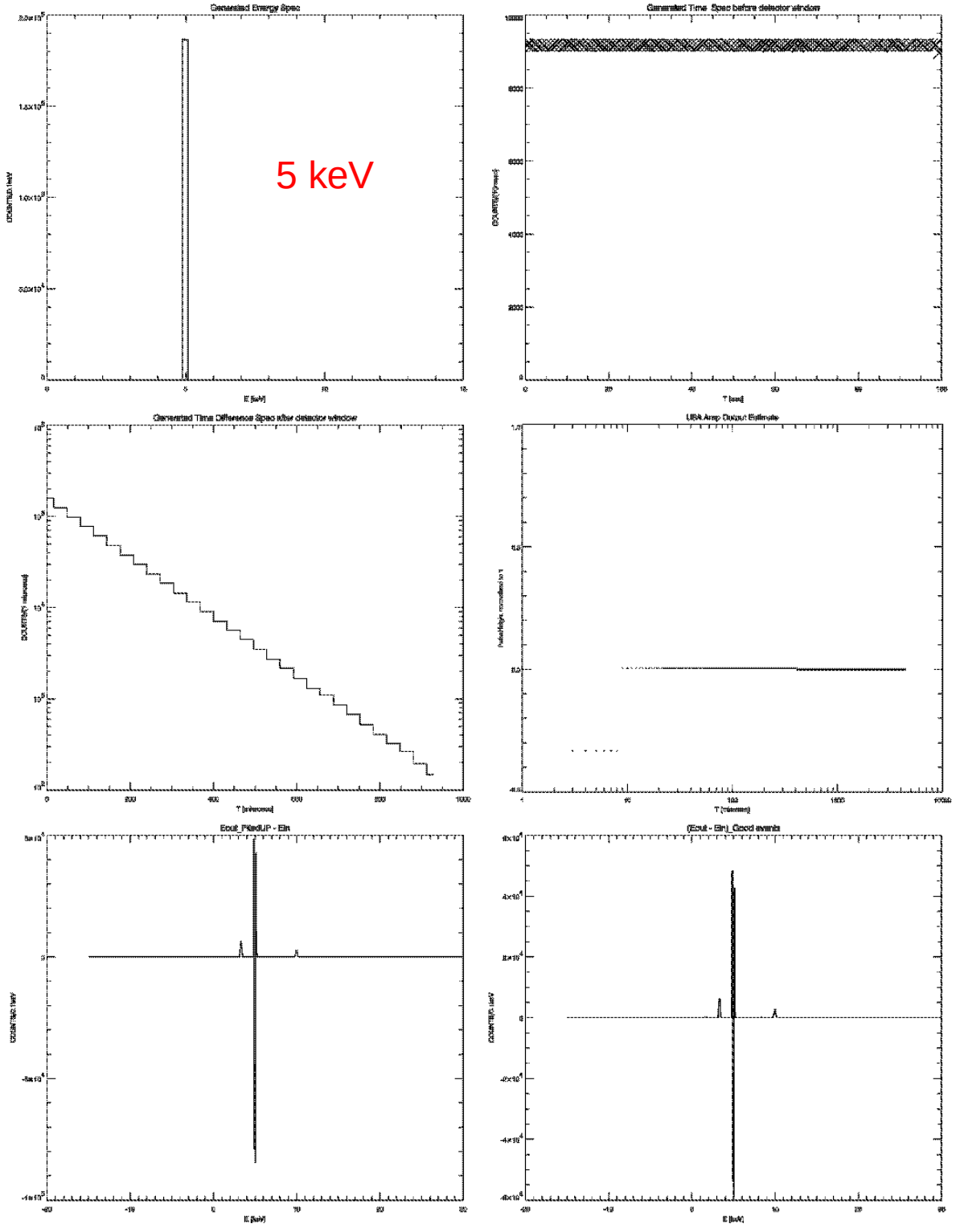
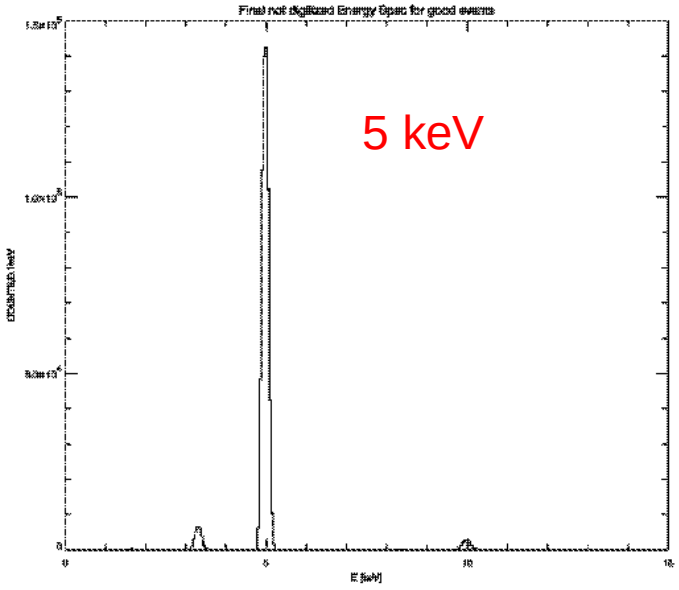
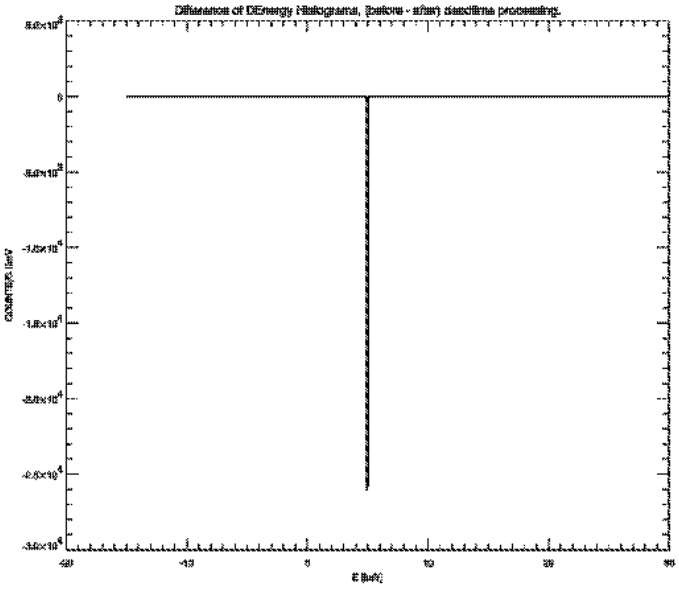
Studies . June 7 - June 18, 2001

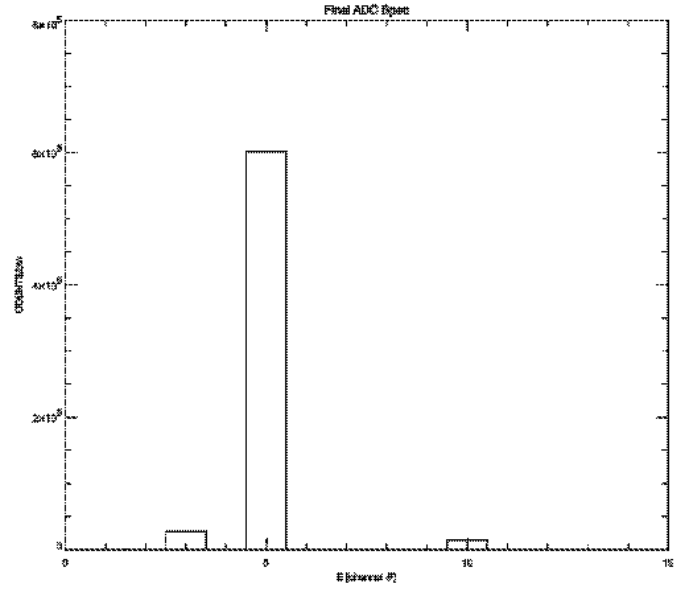
1. Put photon absorption and resolution vs. energy into USA detector MC. Consistent with data?
2. If consistent, tune distorted pulse shape to get agreement.

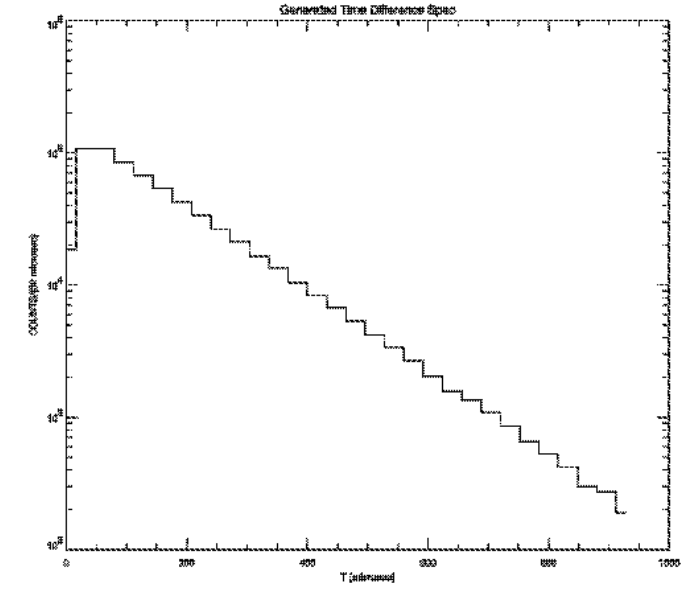
1. Start with ~single energy and no energy resolution:

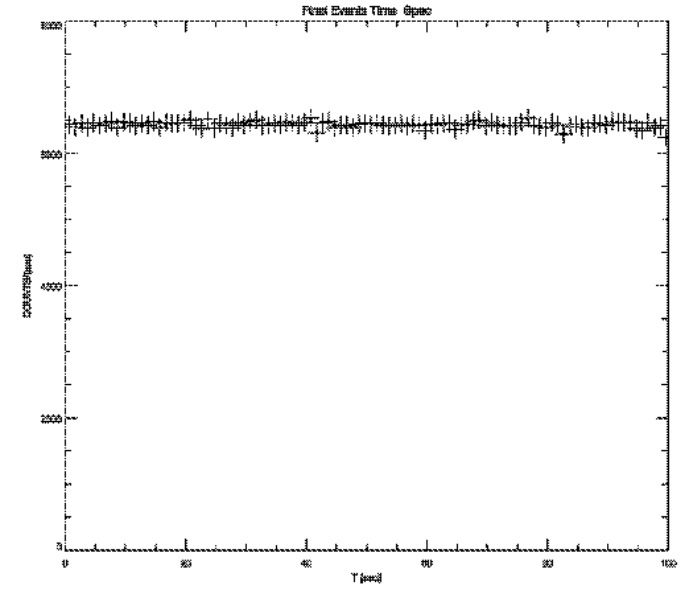


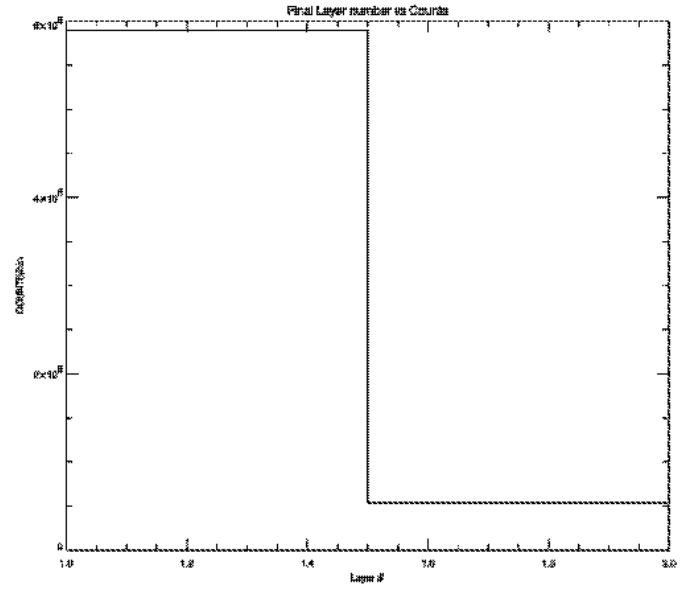

Final not Sigfitted Energy Spec for good events
5 keV
E [keV]

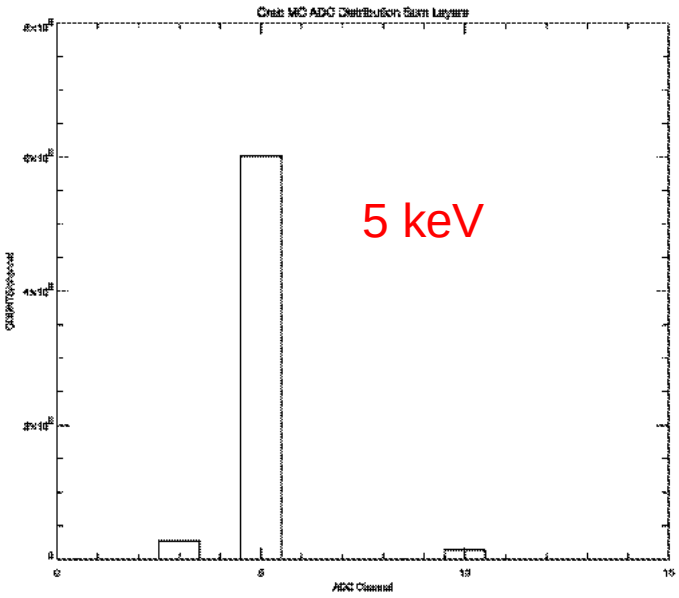

Difference of DEnergy Histograms, (before - after) datafilms processing.
E [keV]

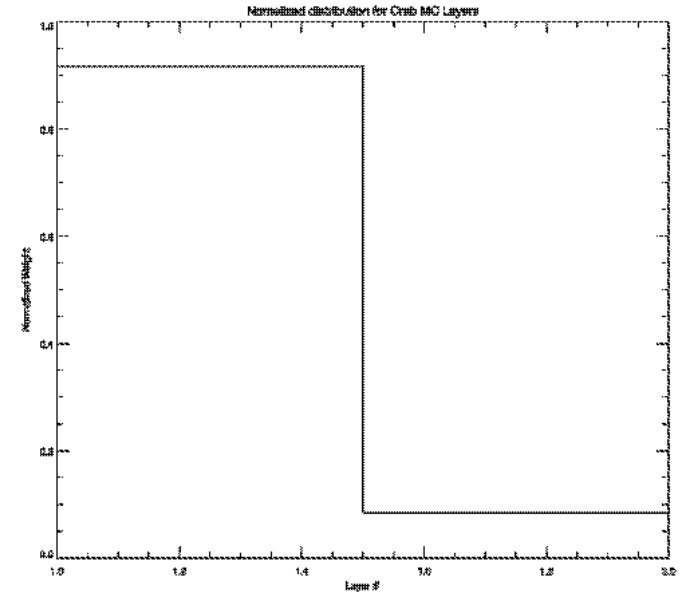

Final ADC Spec
E [channel #]

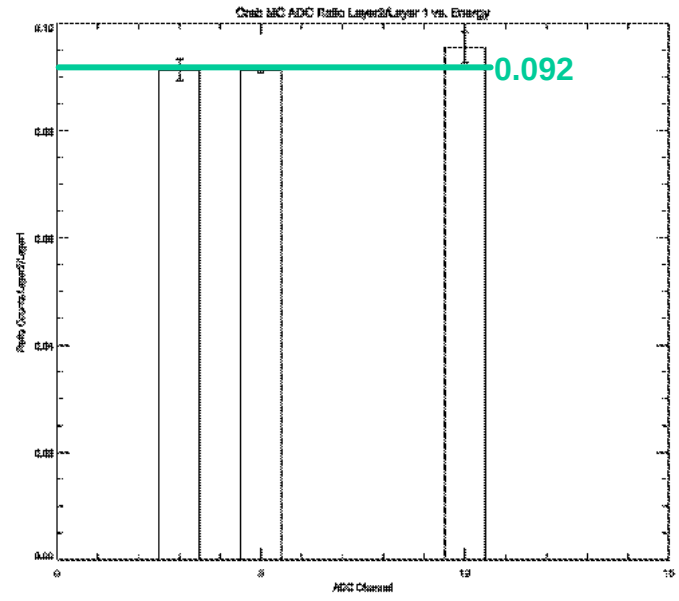

Generated Time Difference Spec
T [microsec]


Final Events Time Spec
T [sec]


Final Layer number vs Counts
Layer #

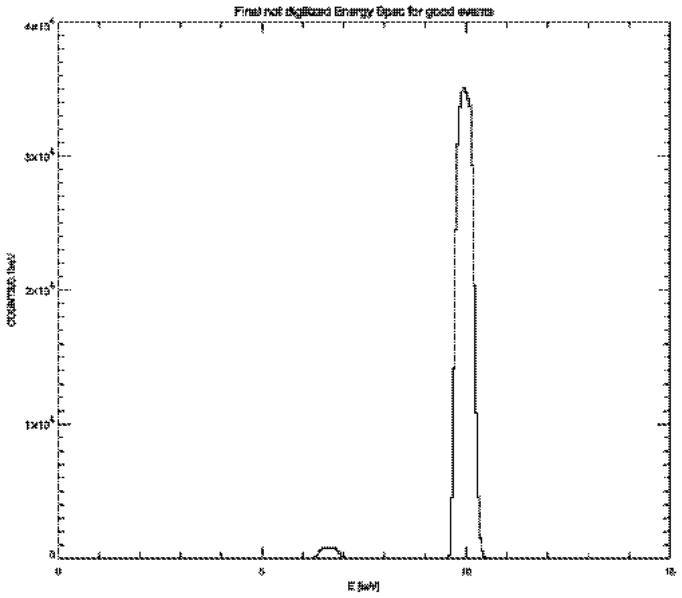


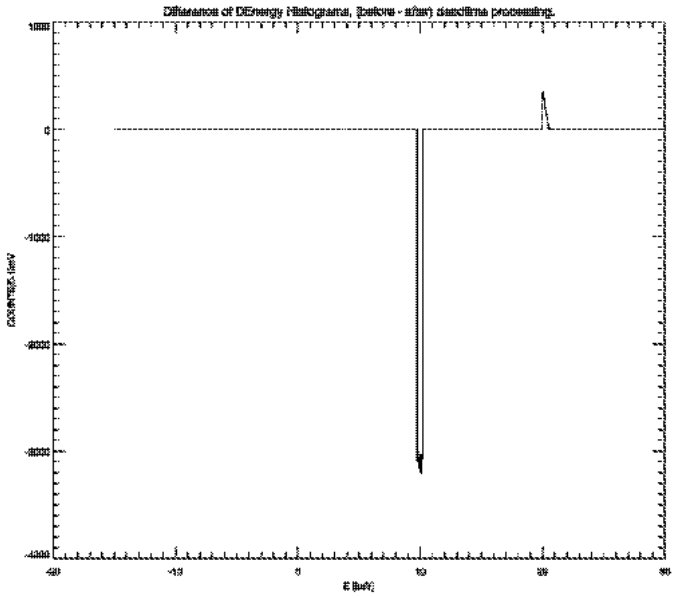


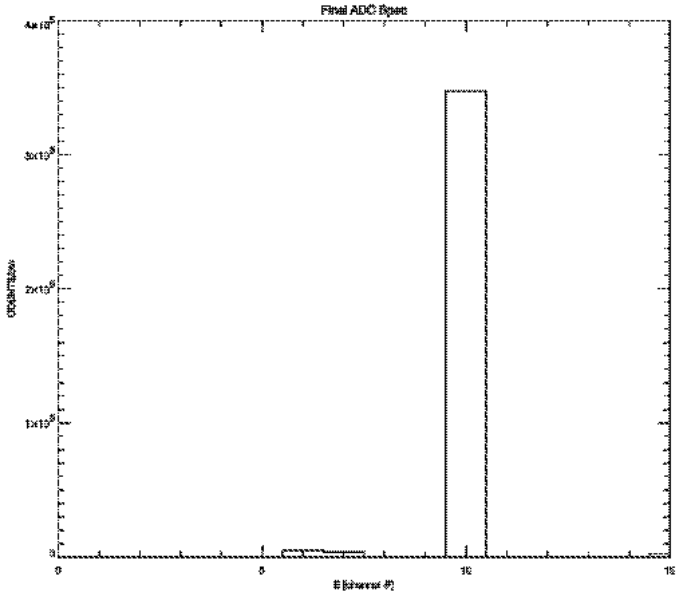


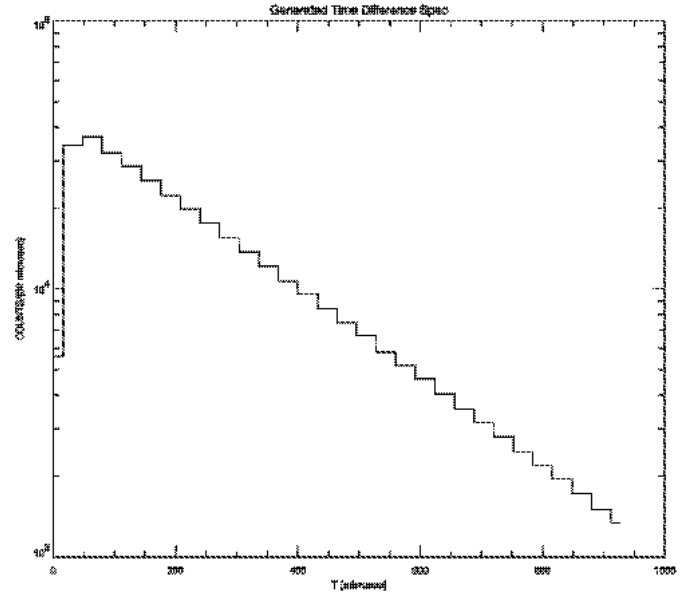
Probability from Gary
L2/L1 = 0.092

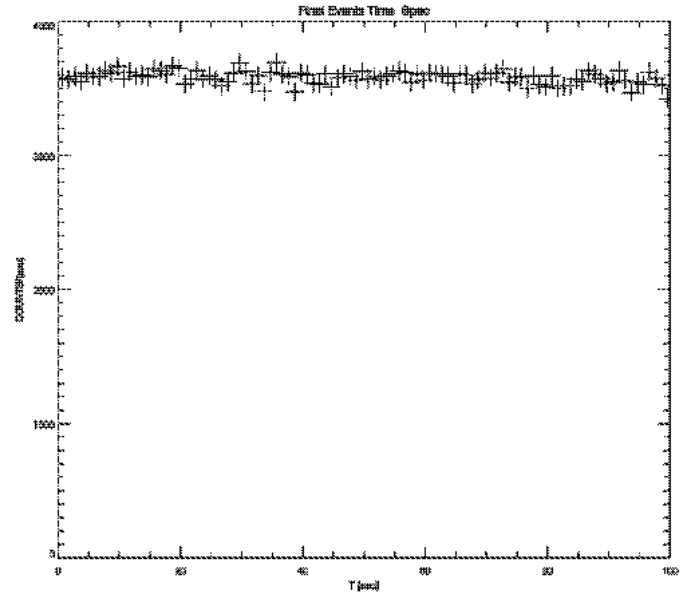
10 keV No Resolution Function

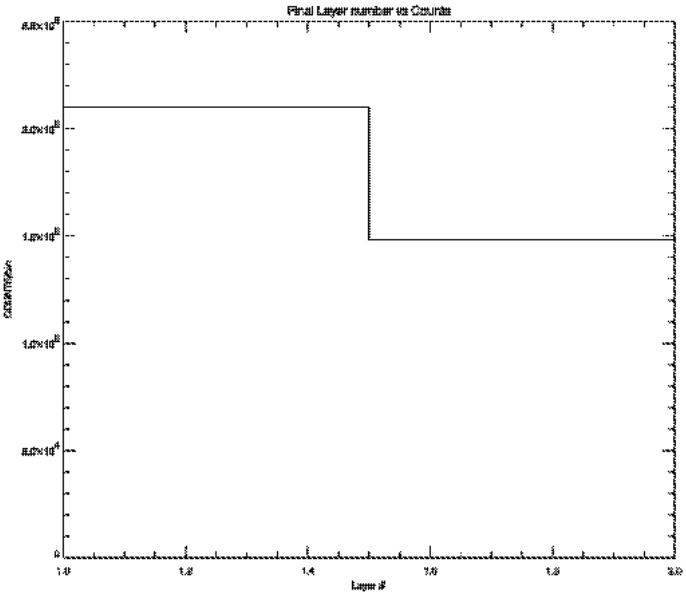


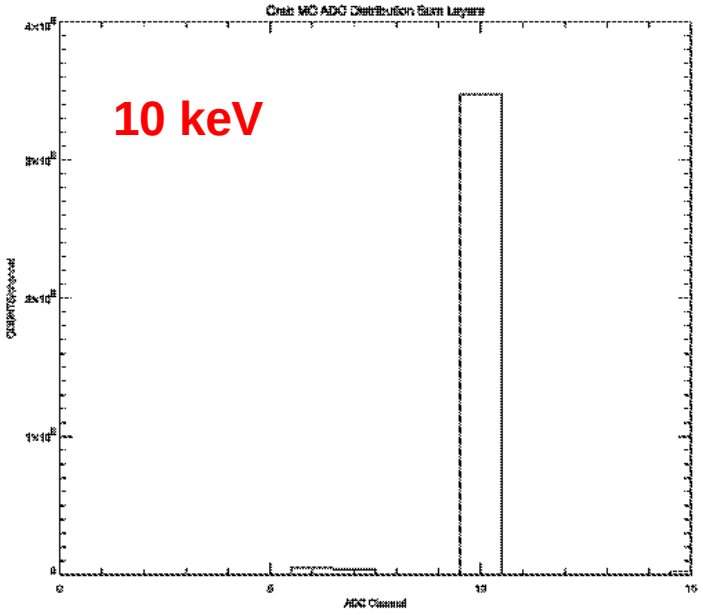


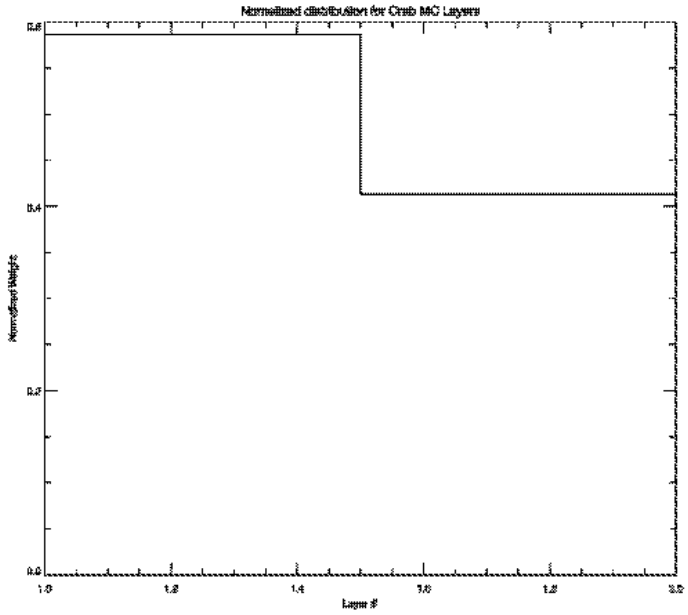


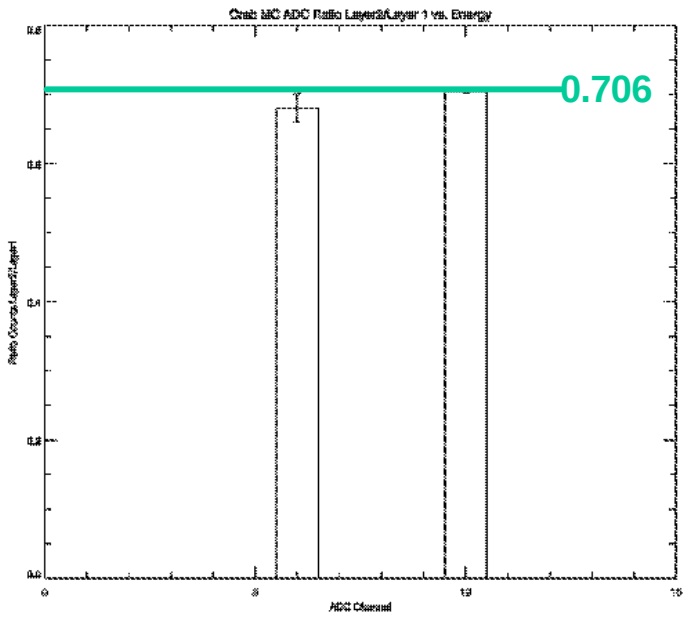






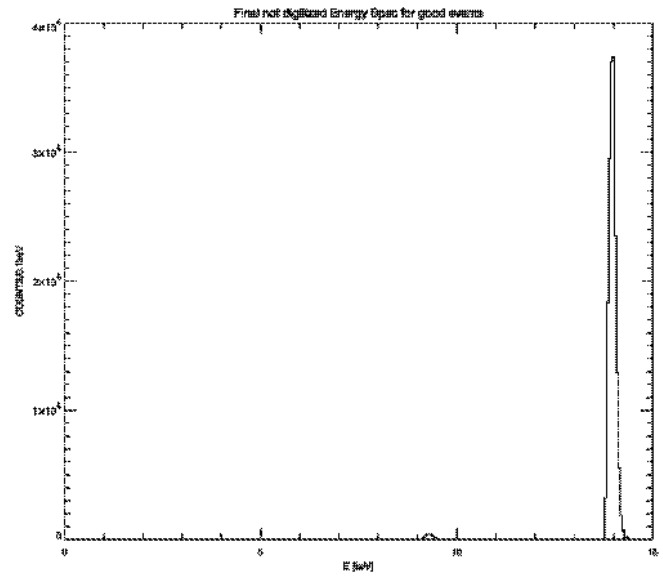


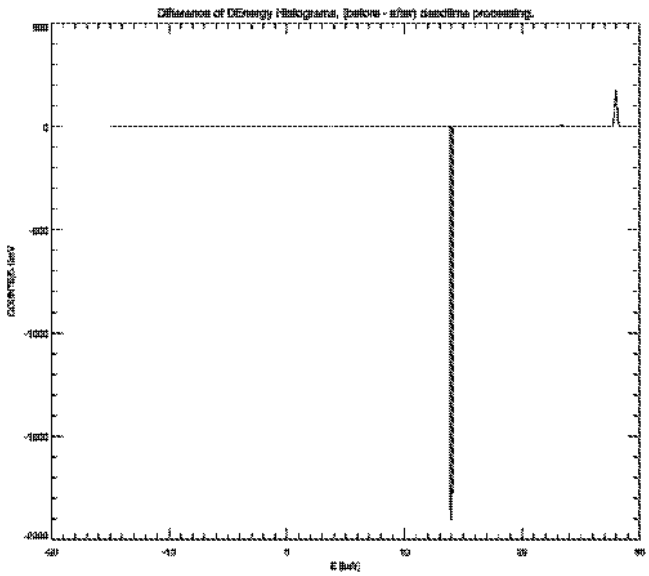


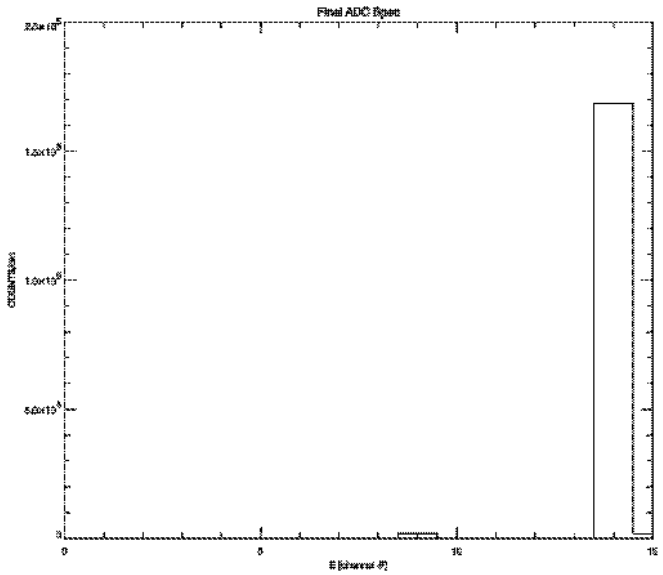


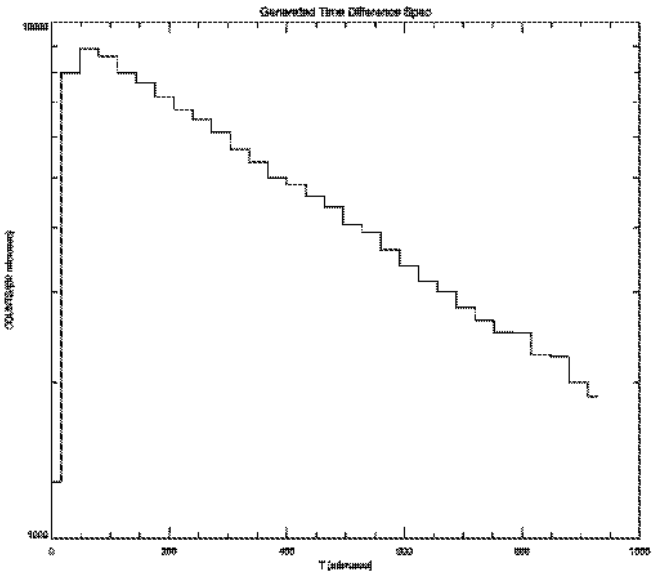
Probability from Gary
L2/L1 = 0.706

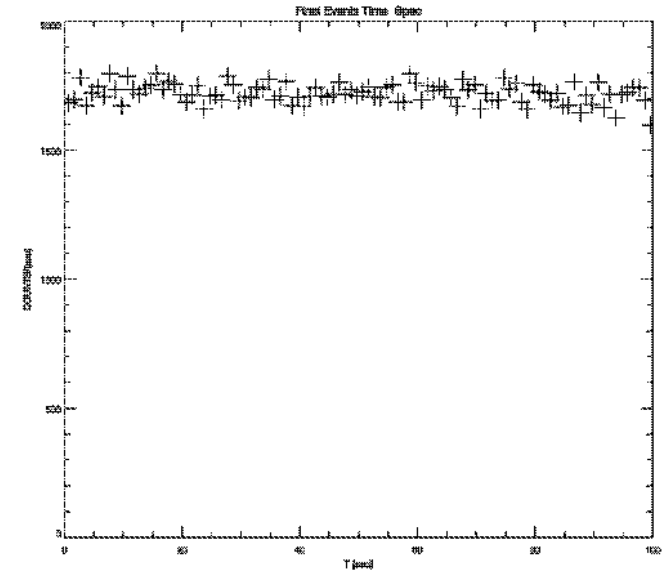
14 keV No Resolution Function

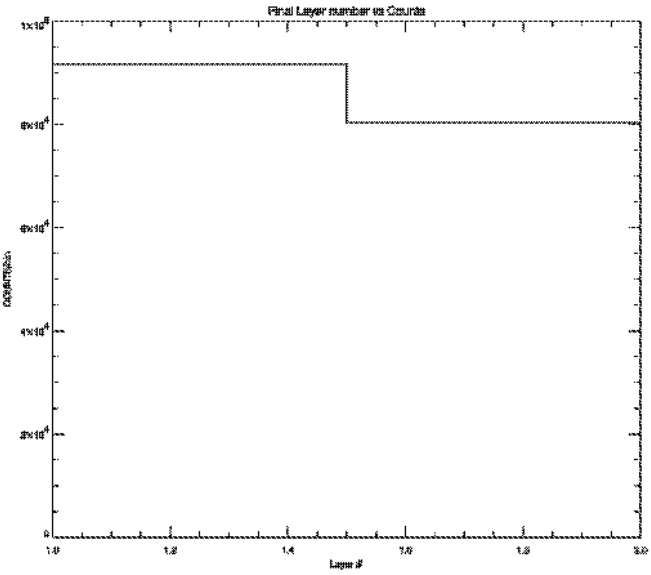


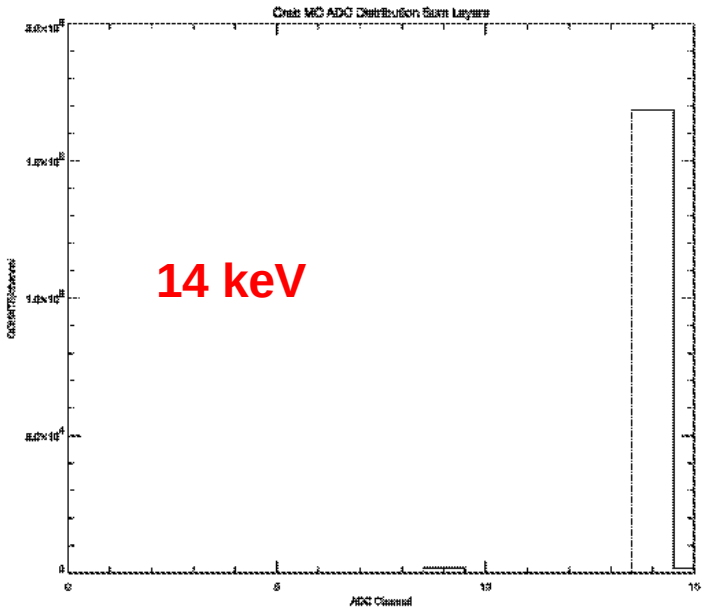


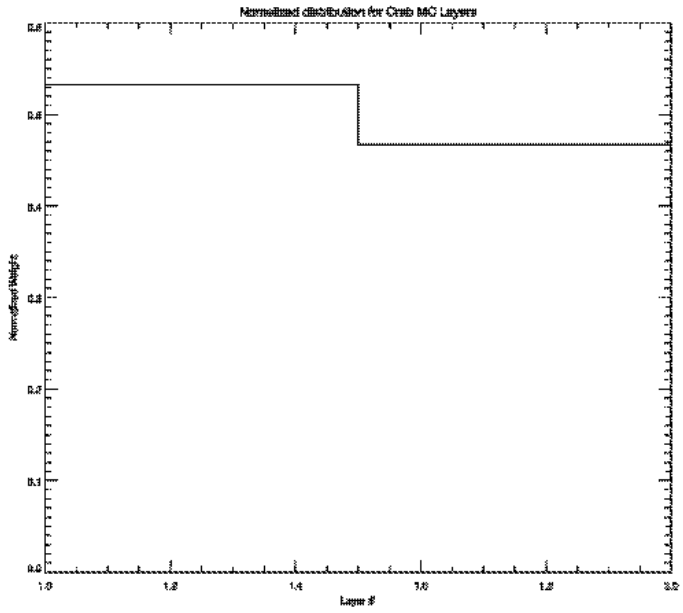


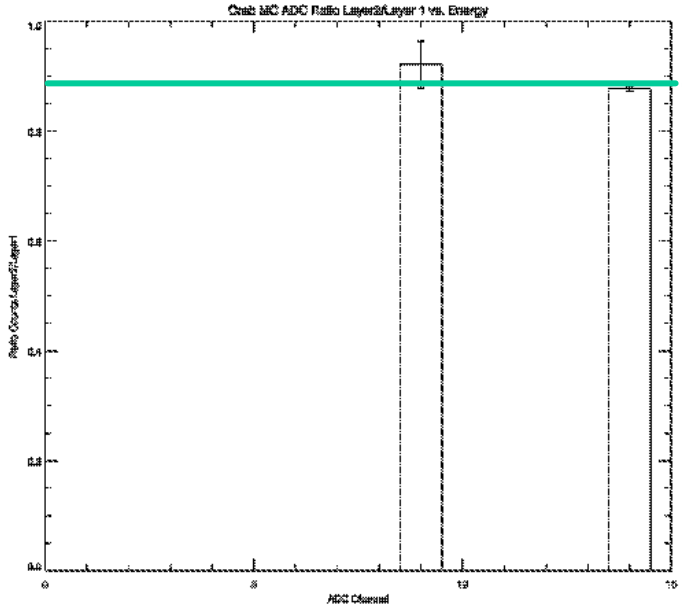






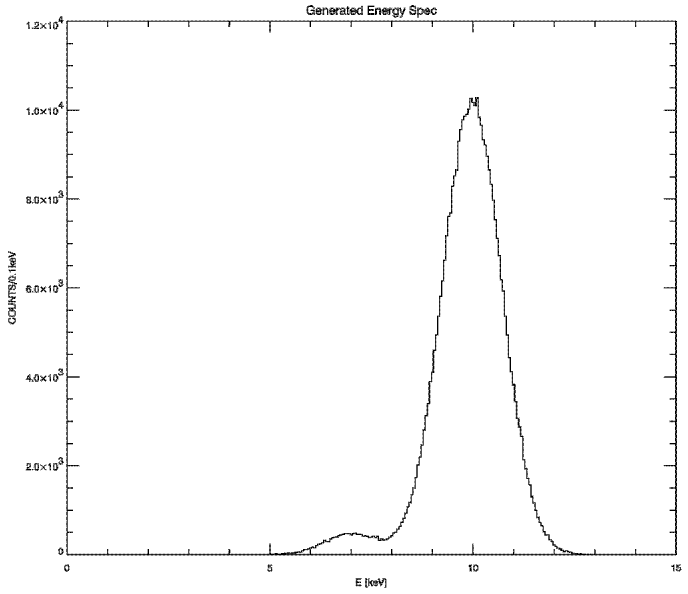


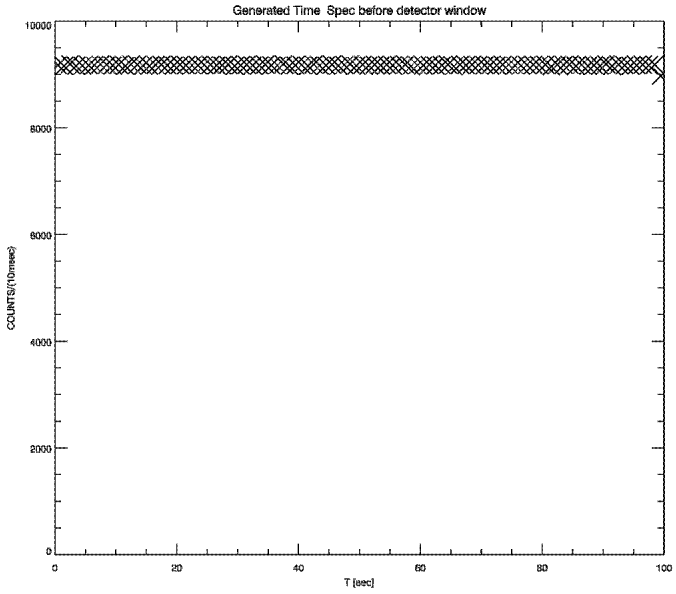


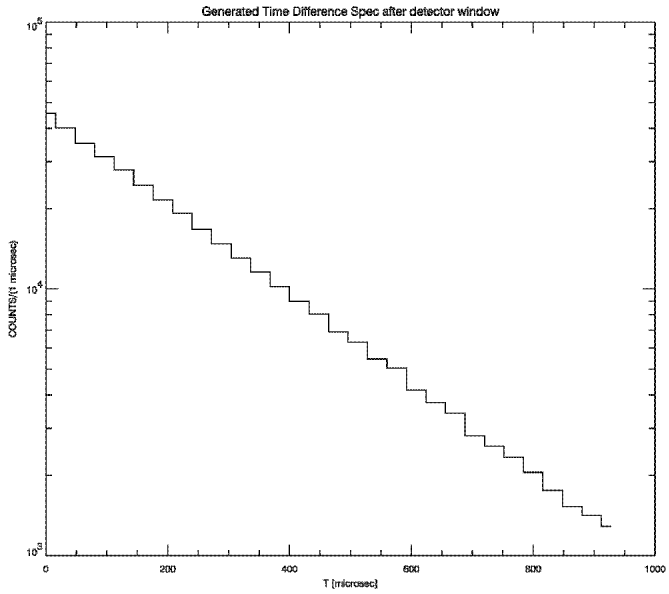


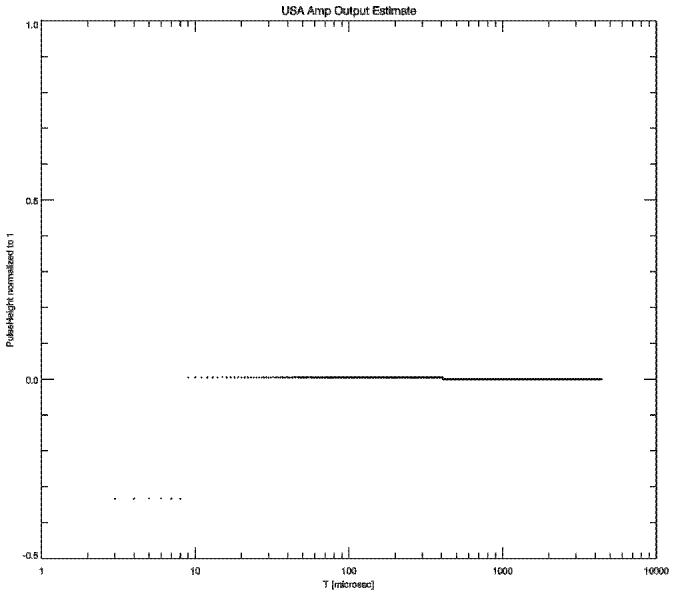
Probability from Gary
L2/L1 = 0.877

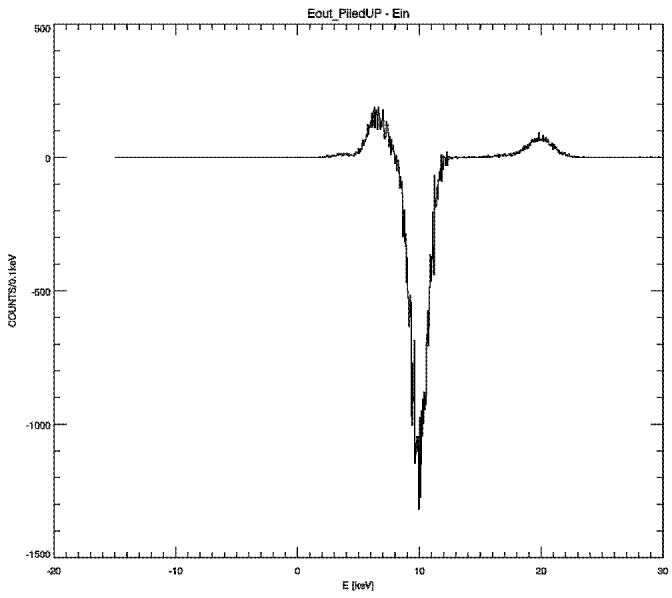
10 keV Yes Resolution Function

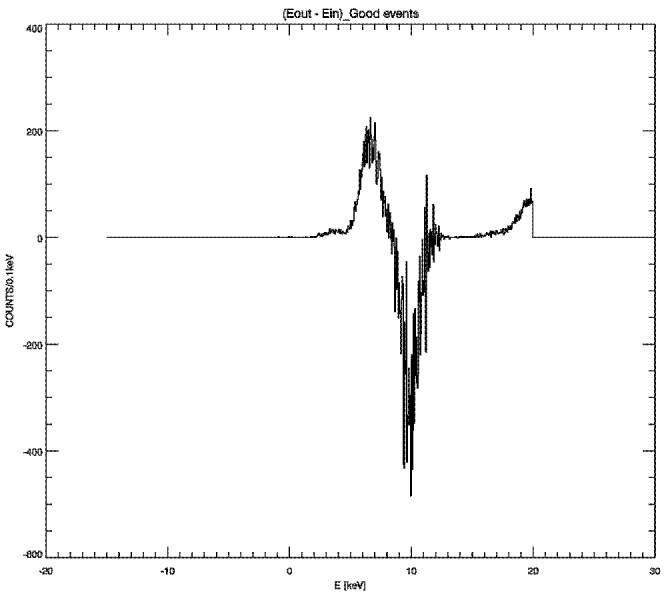




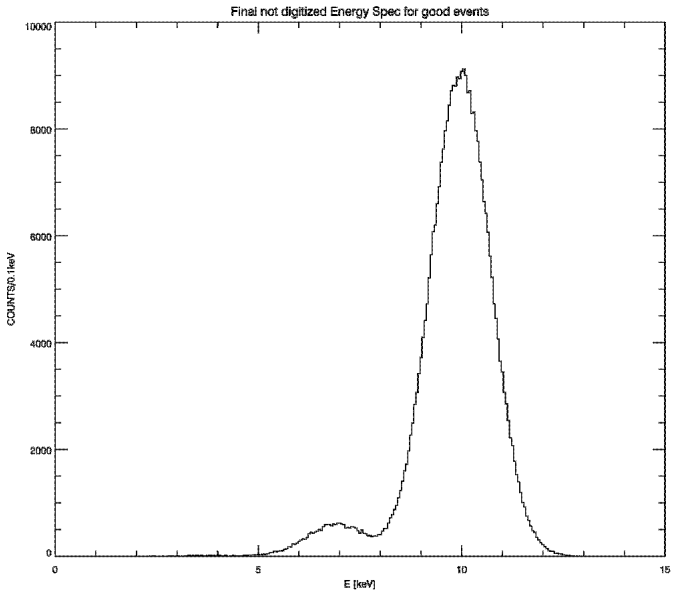


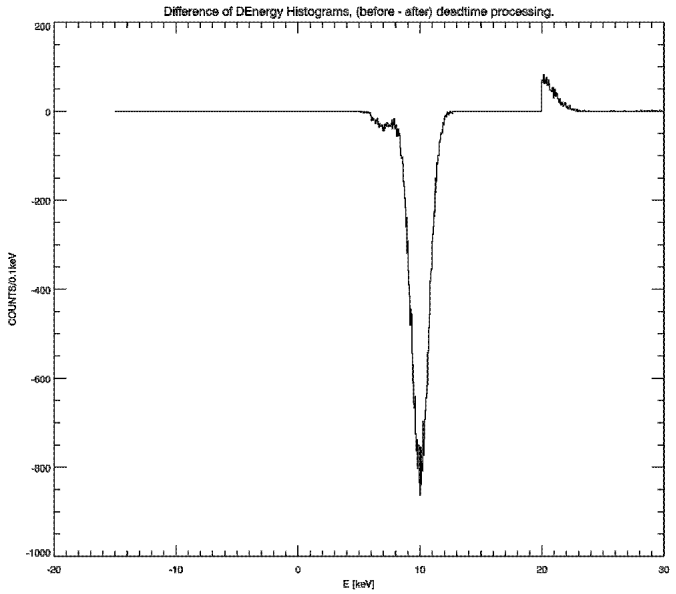


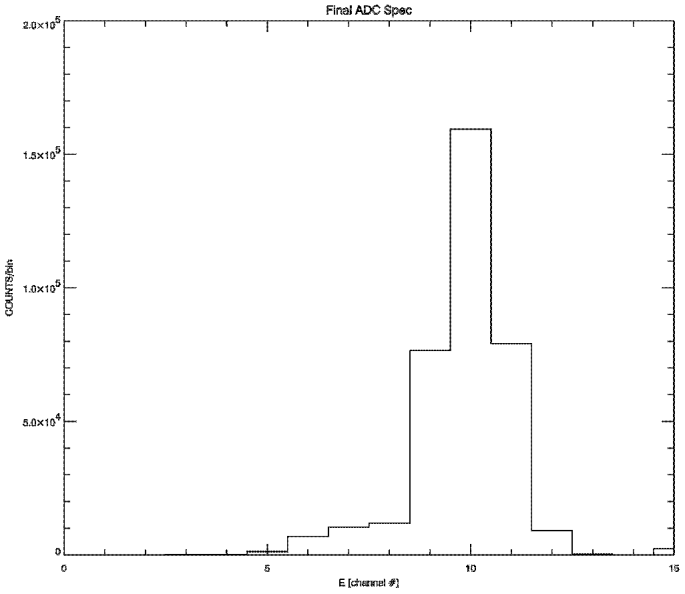


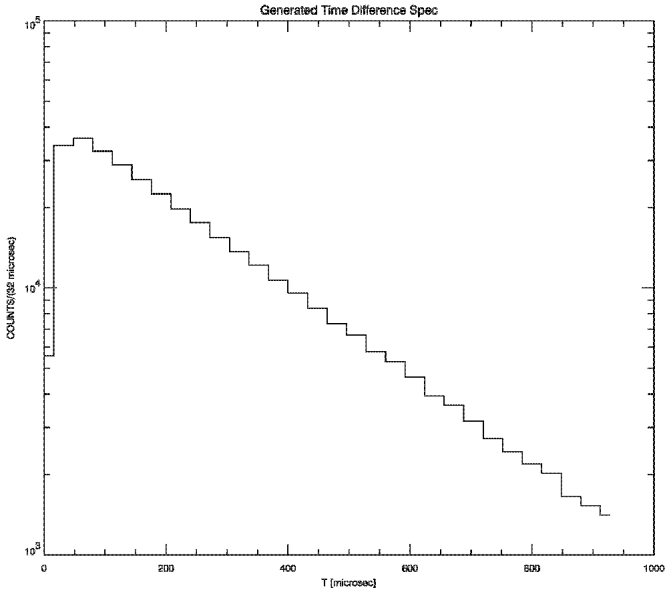


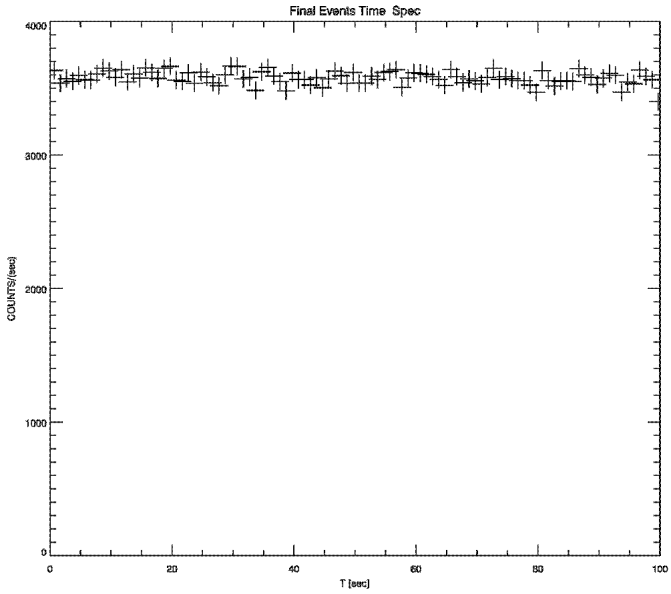
10 keV Yes Resolution Function

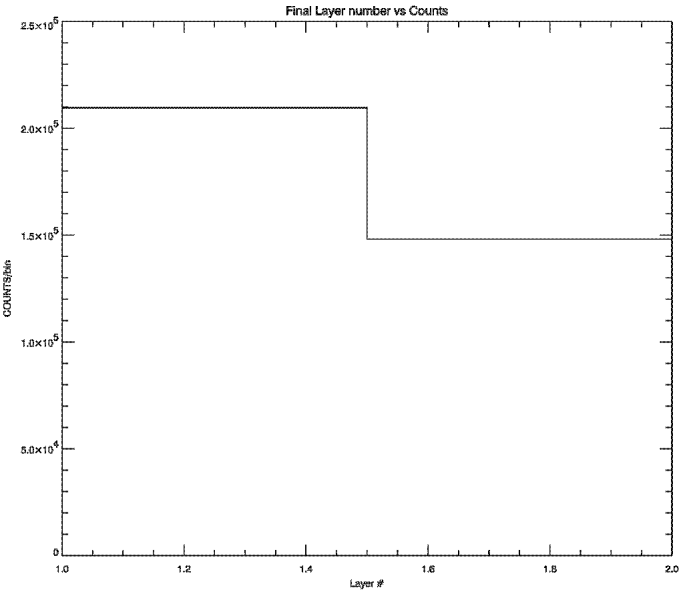




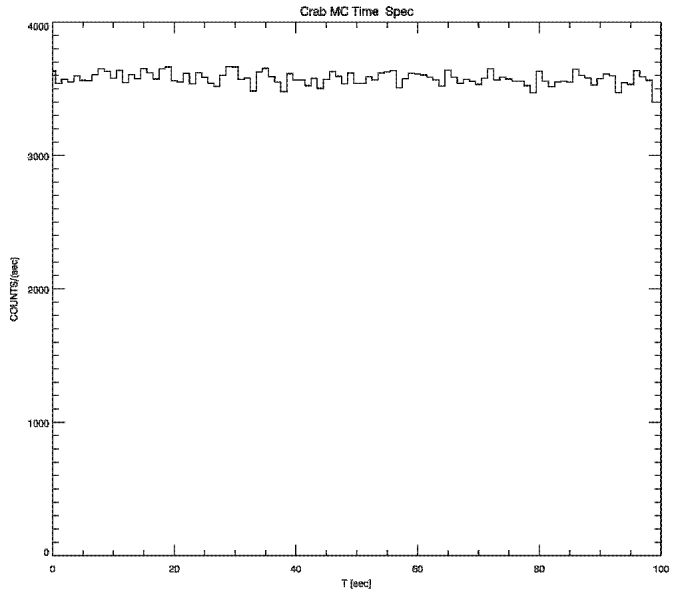


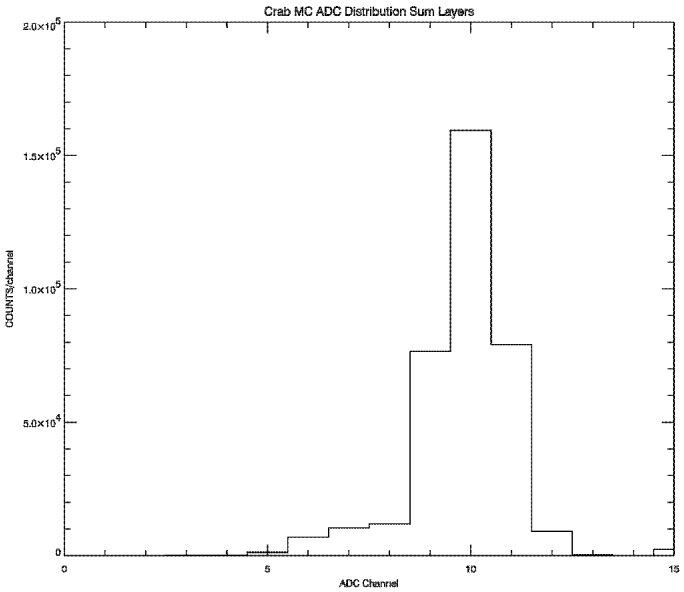


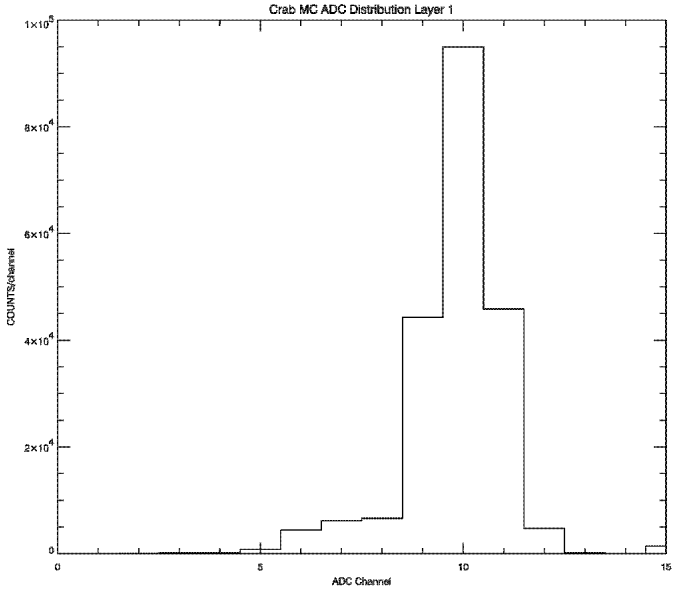


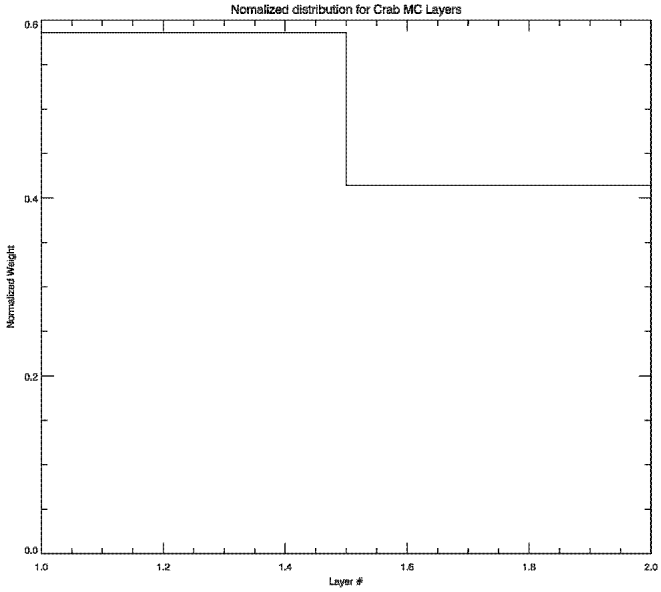


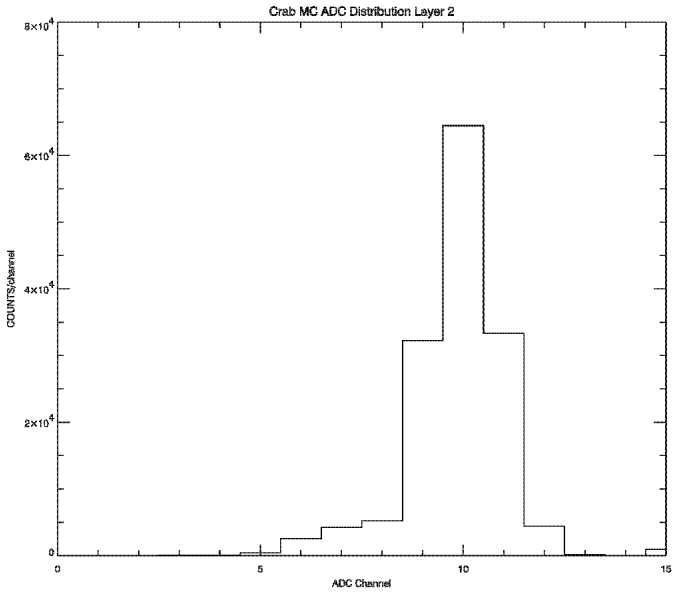
10 keV Yes Resolution Function

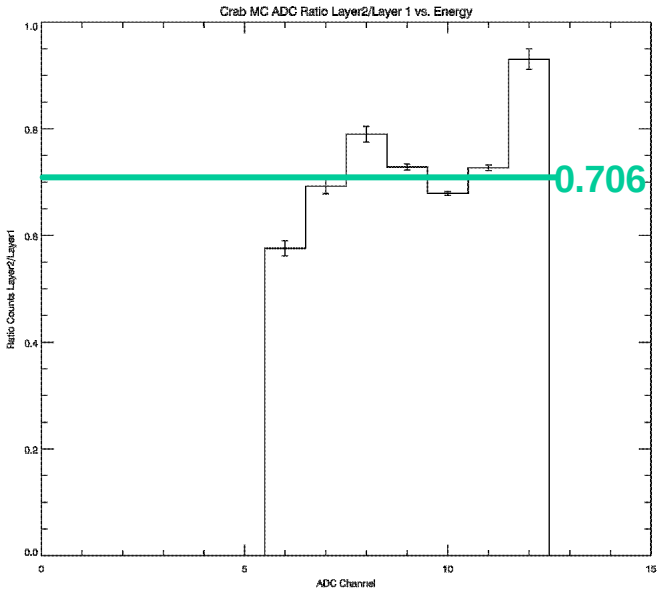




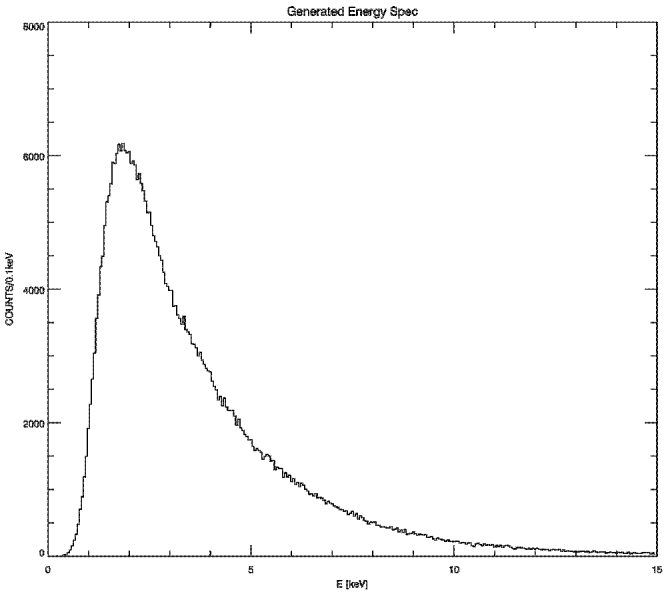


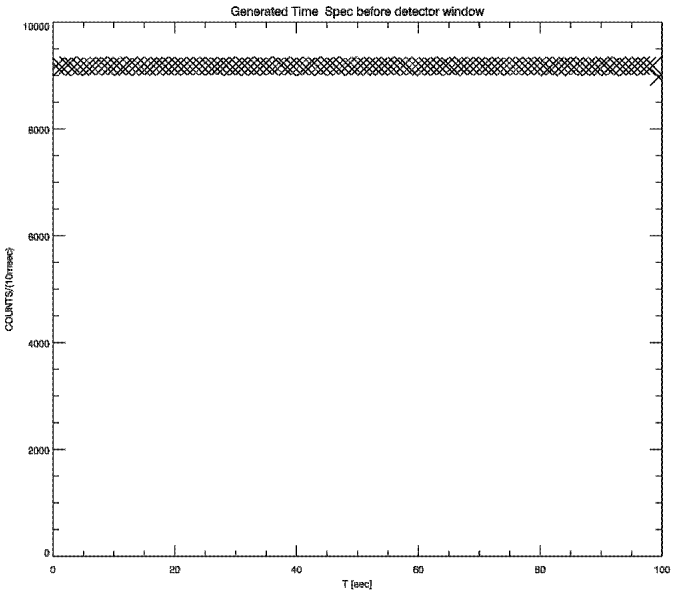


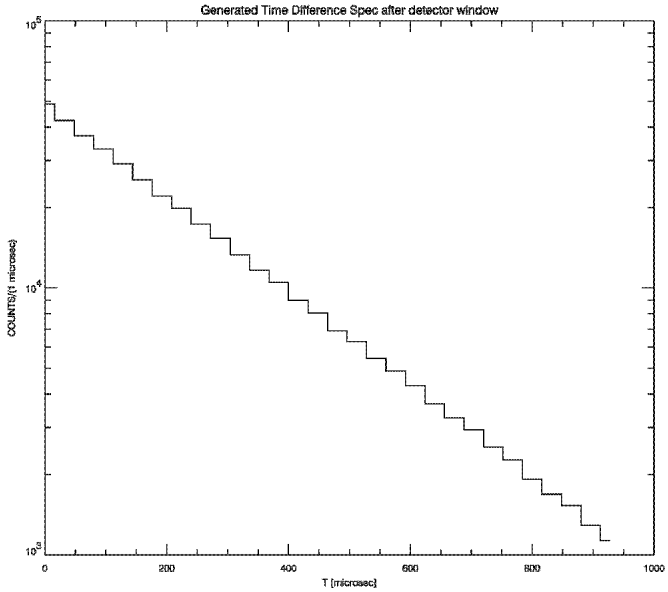


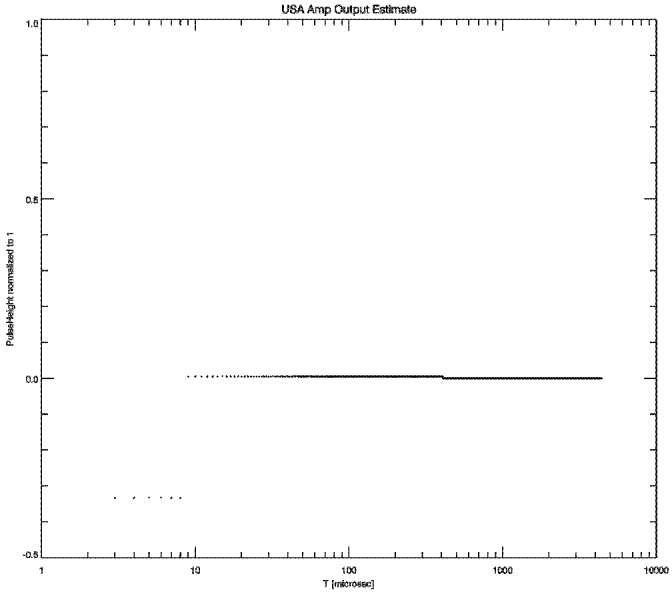


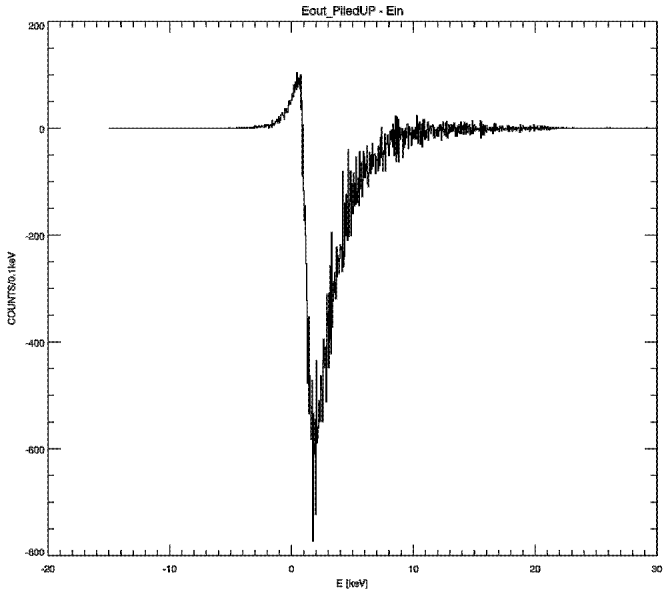
Crab MC with IS absorption, and energy acceptance, smearing

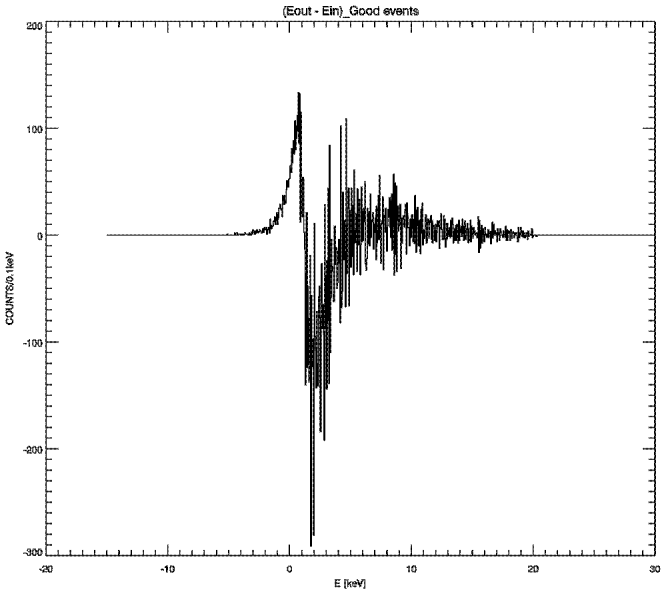




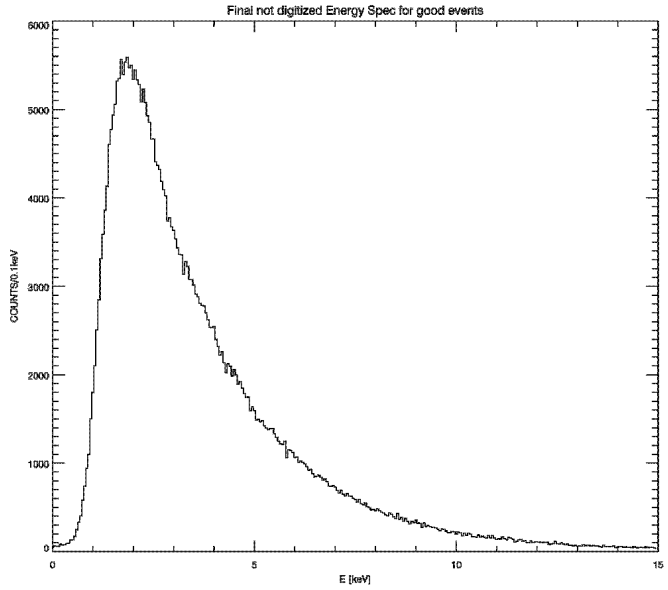


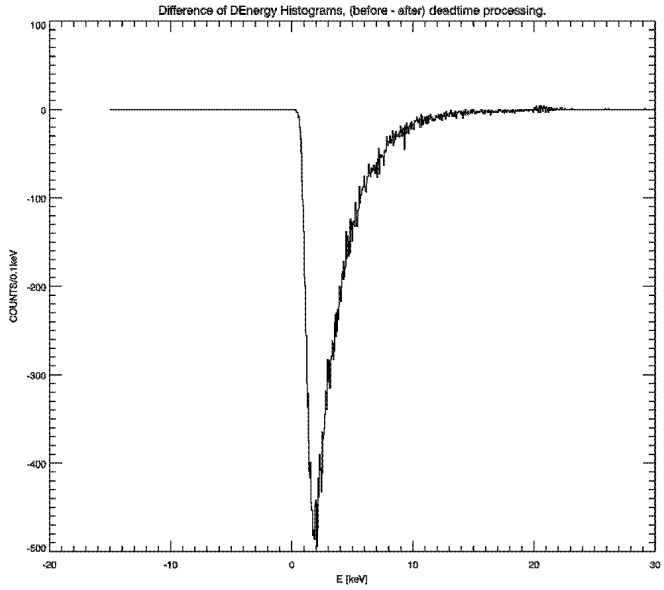


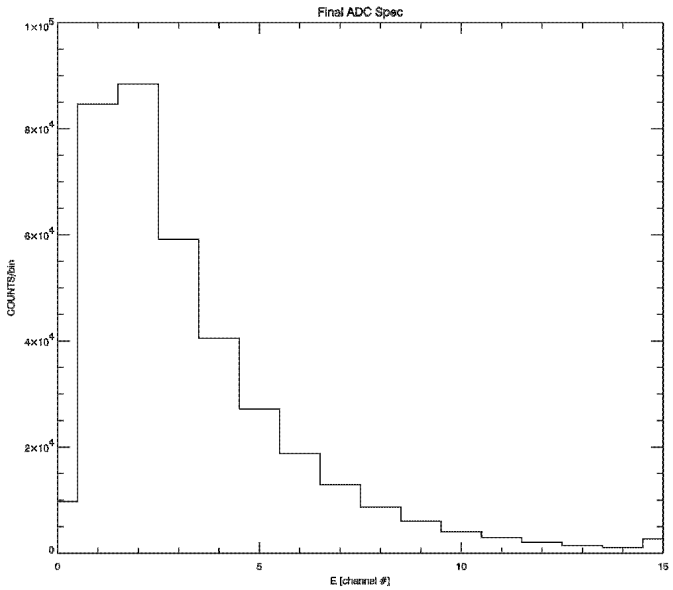


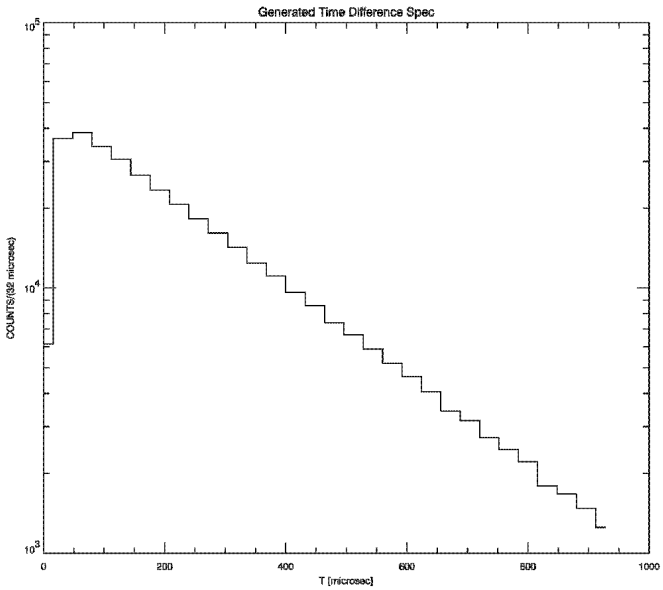


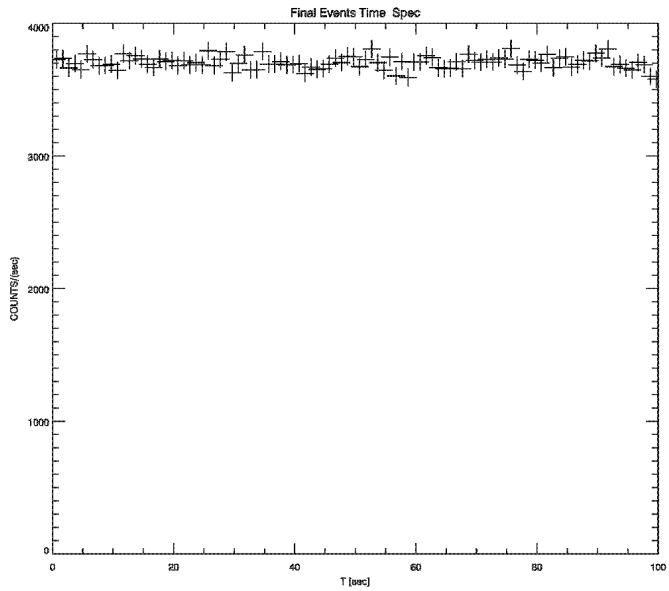
Crab MC with IS absorption, and energy acceptance, smearing

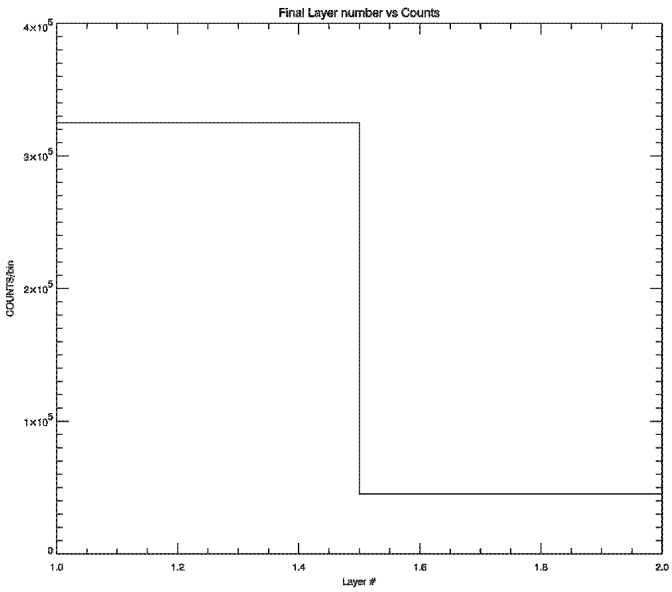




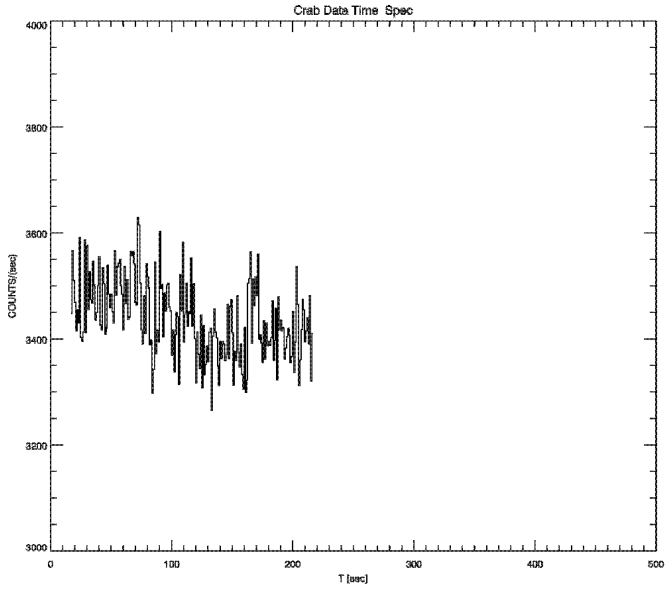


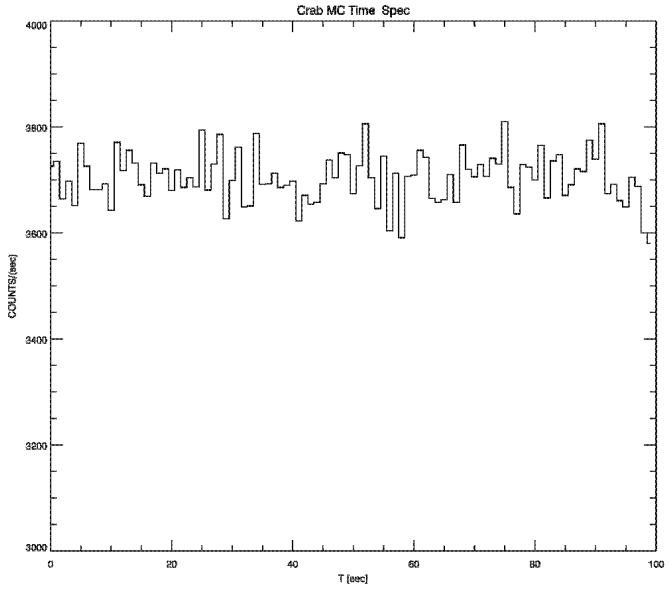


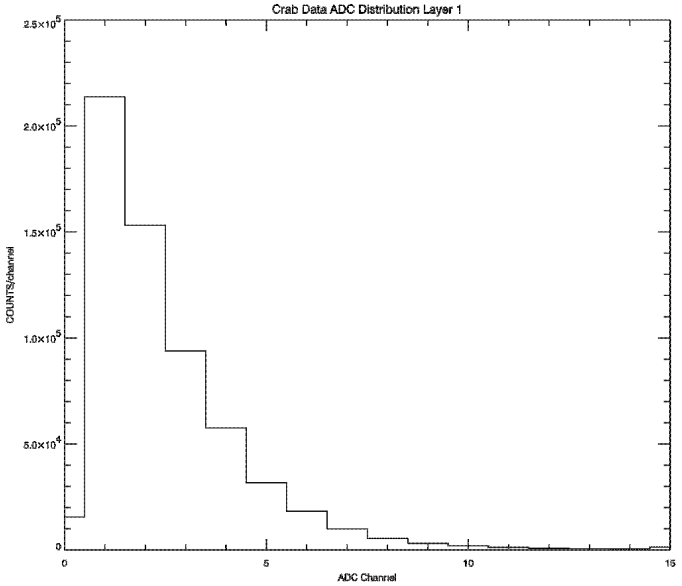


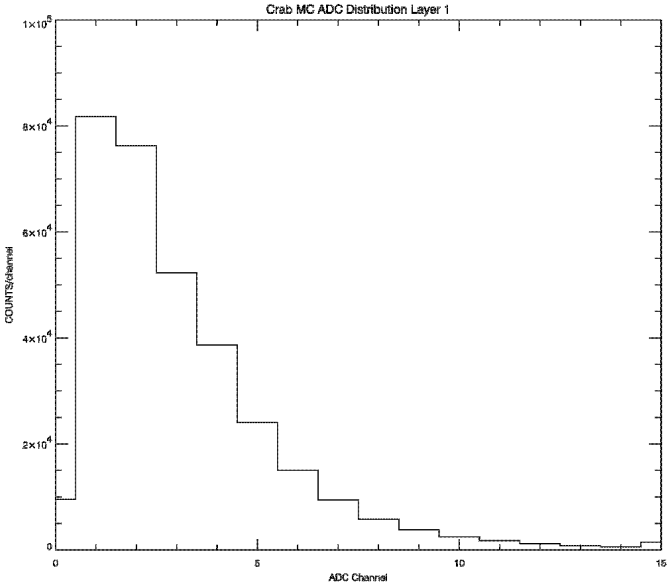


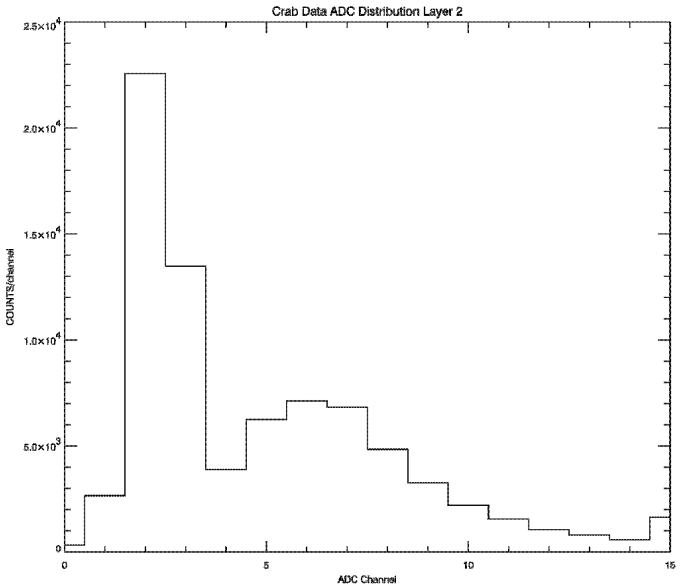
Compare Data and Crab MC

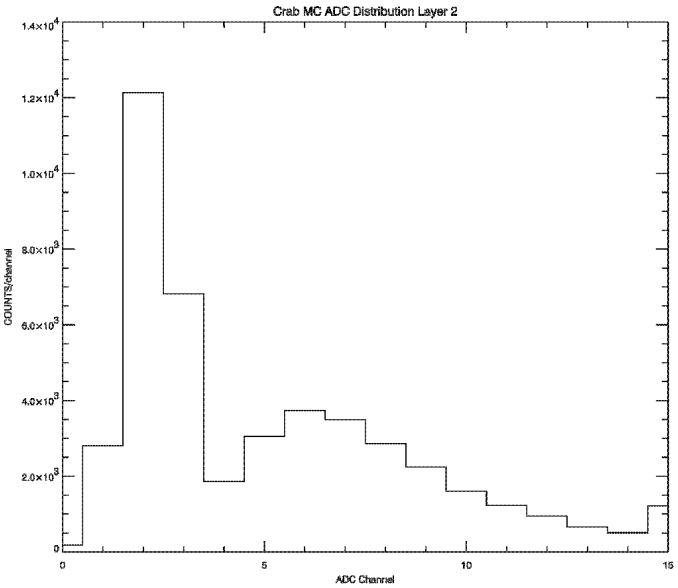




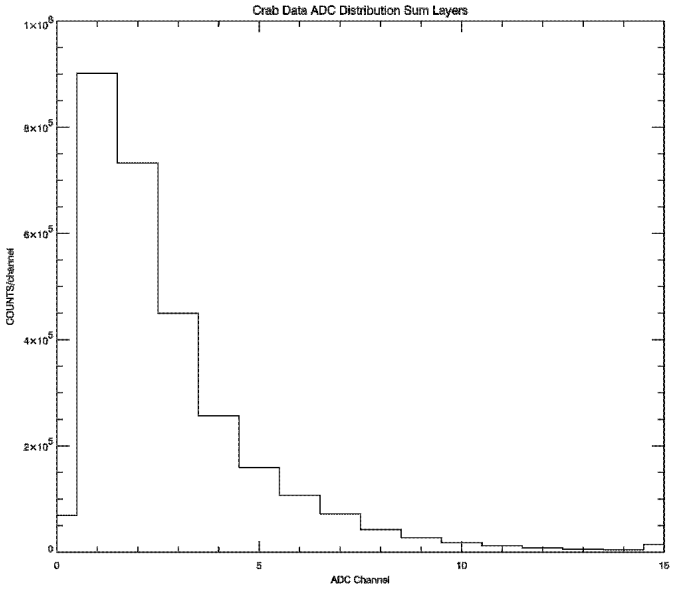


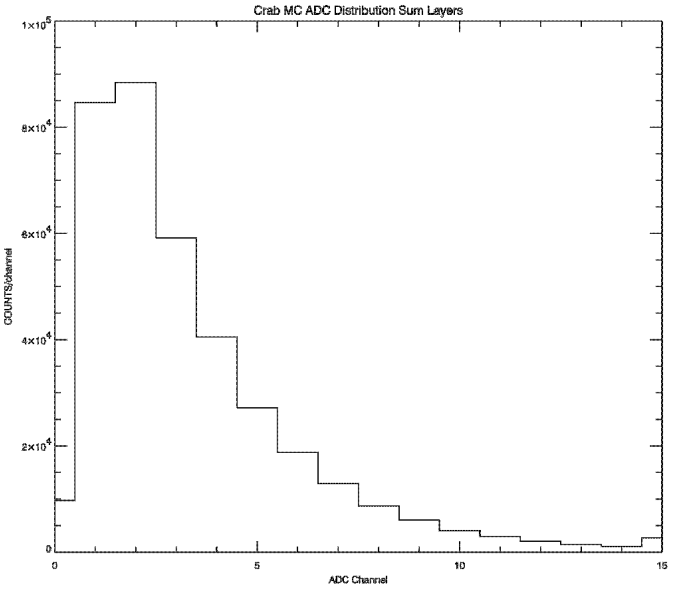


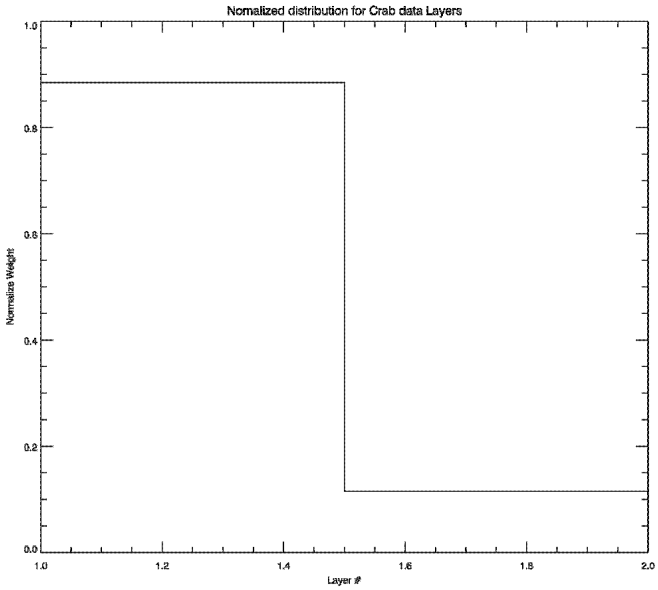


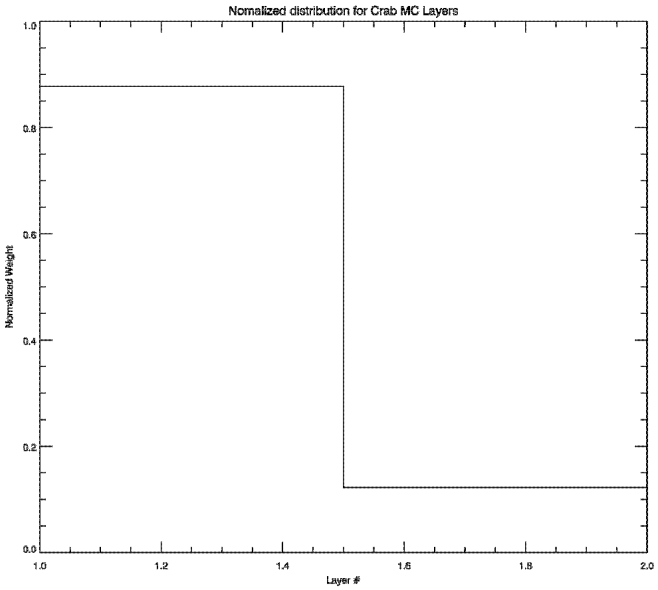


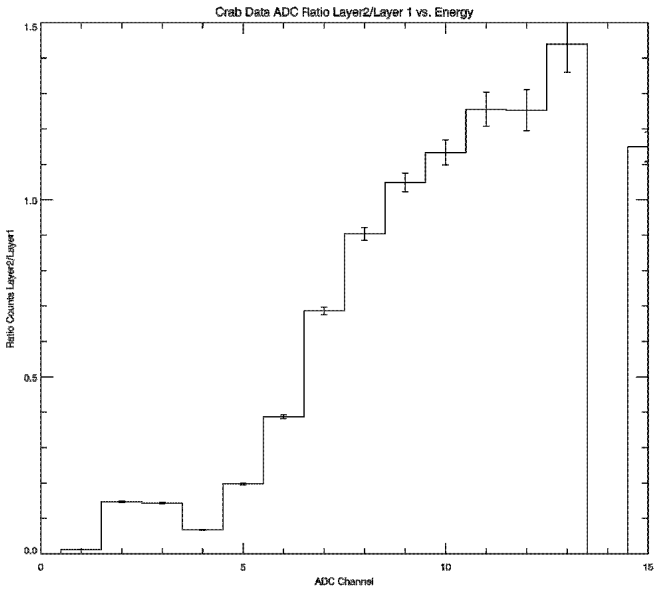
Compare Data and Crab MC

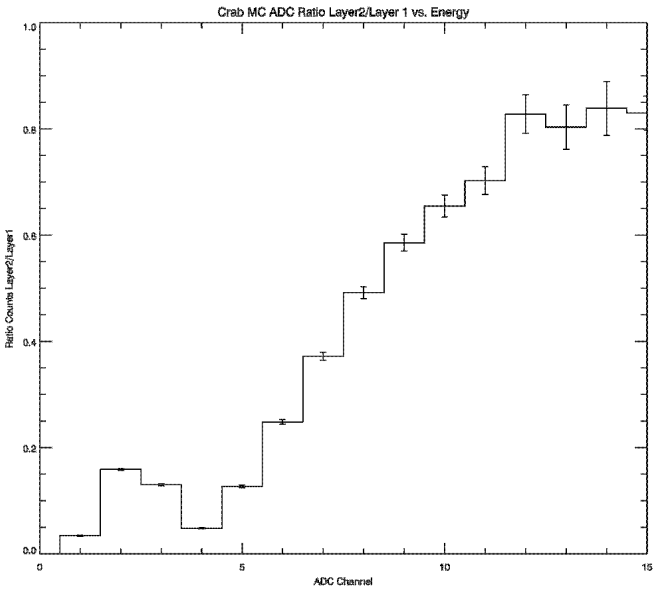






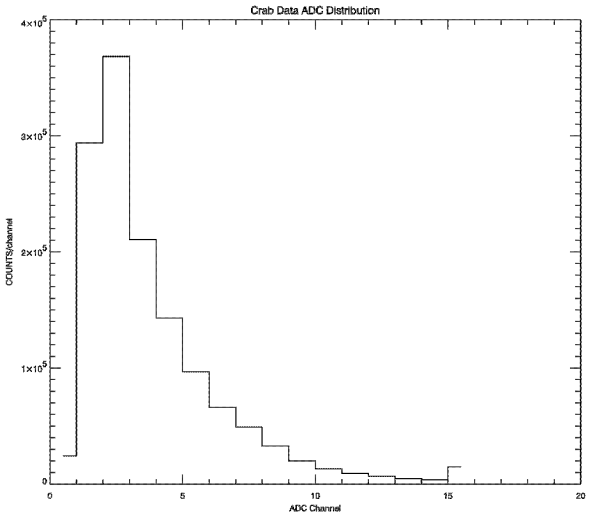


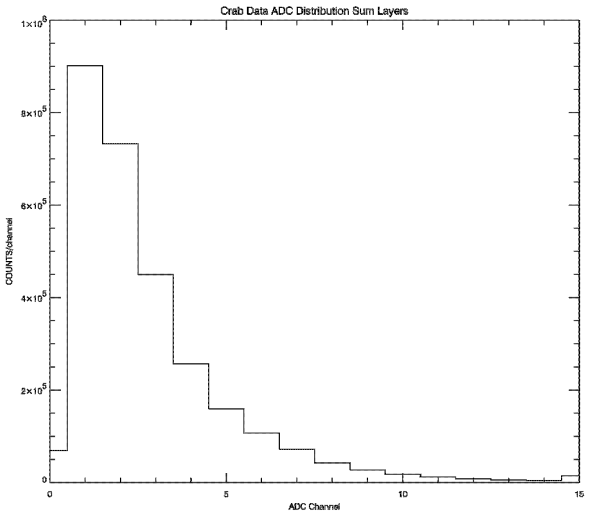




Conclusions:

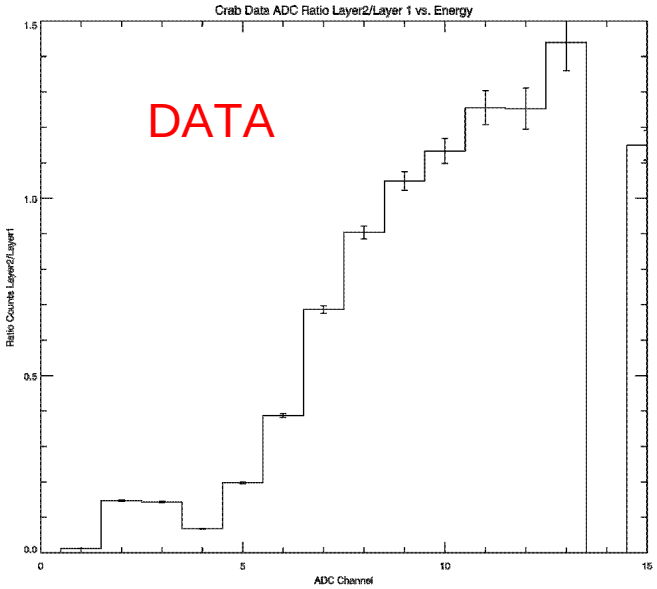
- MC qualitatively reproduces energy distribution of Crab.
- There are some quantitative disagreements.
  - Lowest energy bins can change in data by ~30%.

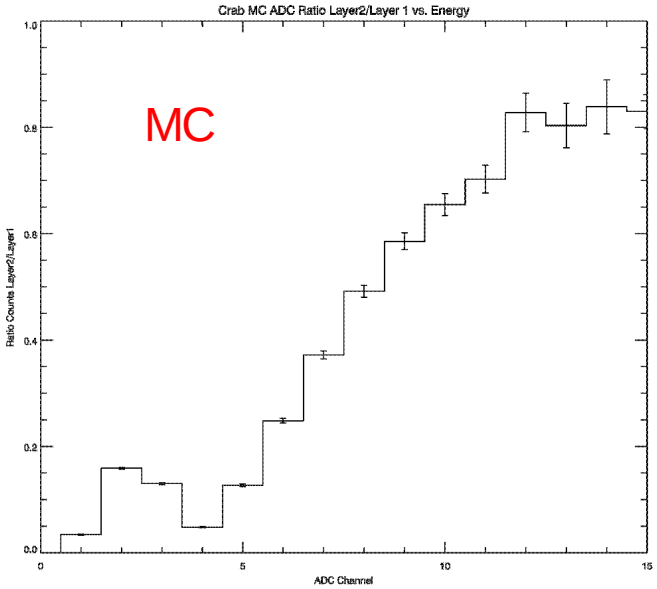




USA_2_Y2000_D108_205346_D108_210655.evt.fits **USA_2_Y2000_D293_114848_D293_121348_default.evt.filt**

- Highest energy bins show layer2/1 > 1 in data.





- MC ready to tune pulse shape.